Title: Erbe ICC Bipolar	Date: 2-10-2013
By: Erbe File = Erbe-ICC-BP.doc	**DISCLAIMER: THIS PROCEDURE PROVIDED "AS IS" AND WITH POSSIBLE FAULTS. USER MUST VERIFY BEFORE USE. NEITHER PROVIDER NOR WEBSITE ASSUMES ANY RESPONSIBILITY FOR ITS USE.**

1. General
   Applies to model "ICC BIPOLAR"
   Specifications: See Appendix

2. Reference Documents
   Erbotom Operating Instructions.
   Erbotom Service Manual (includes models ICC 50 and 80)

3. Tools / Fixtures / Accessories
   - Electrosurgical Analyzer: ex: Dempsey 443 or better.
   - Bipolar Cable/Forceps (optional).
   - Safety Tester

4. Performance Verifications

   4.1. Initial Inspection
   Check unit for any damage; i.e. connectors, power cord, the footswitch and its cable.

   4.2. With no accessories plugged in, turn on unit. Verify that all segments of the displays briefly illuminate, along with several test tones.

   4.3. Setup
   Connect analyzer to ESU using a banana plug test leads. Before activating the unit, check that the up and down buttons can control each display between 0 (---) and 50 without noticeable contact bounce.

DEMPSEY 443 ANALYZER

Note: The analyzer that is shown has load settings of only 500 and 125 ohms. Refer to load curves in Appendix for reference.

   4.4. Cut Mode
   Set the analyzer to 500 ohm load. When pressing the cut pedal, output power should easily track the cut display from 1 to 50 for either EFF1 or EFF2 selection.

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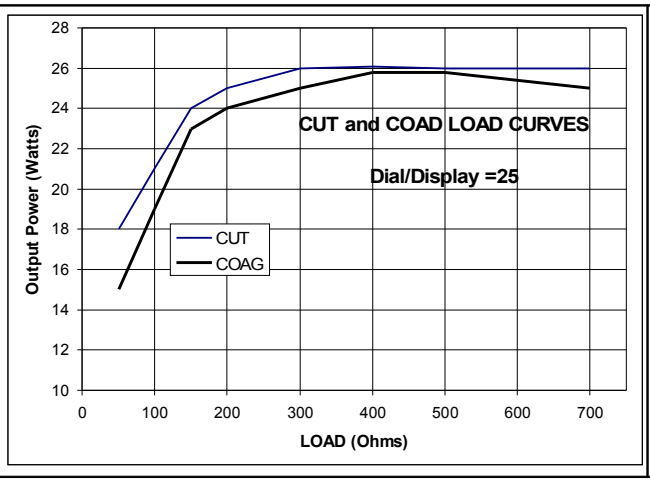
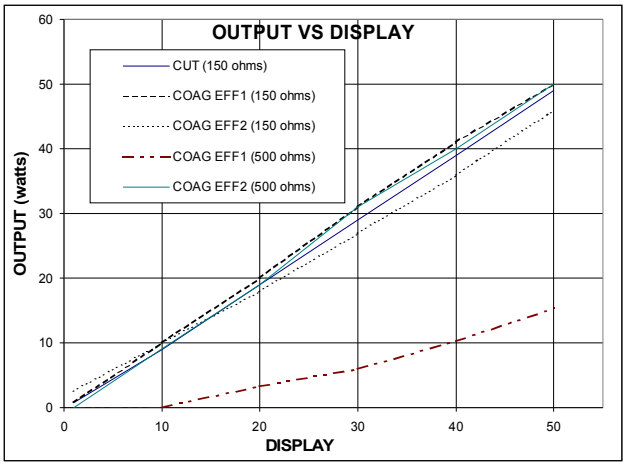
   4.5. Coag Mode
   Set analyzer load to 500 ohms; Coag mode to EFF2. Using the footswitch, key the unit and note the distinct audible tone. Gradually turn power to max dial and note power into analyzer. Refer to charts in appendix for acceptable results, which depend on load.

   4.6. Other Safety Checks
   Using the safety tester, check that line leakage with ground open is less than 50 uA.
   Using the safety tester, check that ground lead resistance is less than 0.15 ohms.
   Resistance between case and either bipolar output contact: >10 megohms.

APPENDIX

POWER OUTPUT RELATIONSHIPS





Erbe ICC Bipolar Specifications	
Bipolar	Cut, coagulate (both with 2 effect modes)
Max. energy output (at rated ohms)	Up to 50 Watt
Max voltage, vp-p	380 effect 1; 1,600 effect 2
WEIGHT, kg (lb)	2.8 (6.2)
GENERATOR	Solid-state
Frequency, Khz	350
Visual	Yes
Audible	4 tones
Volume control	Yes
Line Voltage	110/120/230/240
COOLING SYSTEM	Convection
OTHER SPECIFICATIONS	Low constant voltage; automatic power adjustment; defined bipolar sine wave. Meets requirements of AAMI, HF 18, CSA, EN 46001, IEC 60601-1 and 60601-2-2, ISO 9001,SEV, and UL.